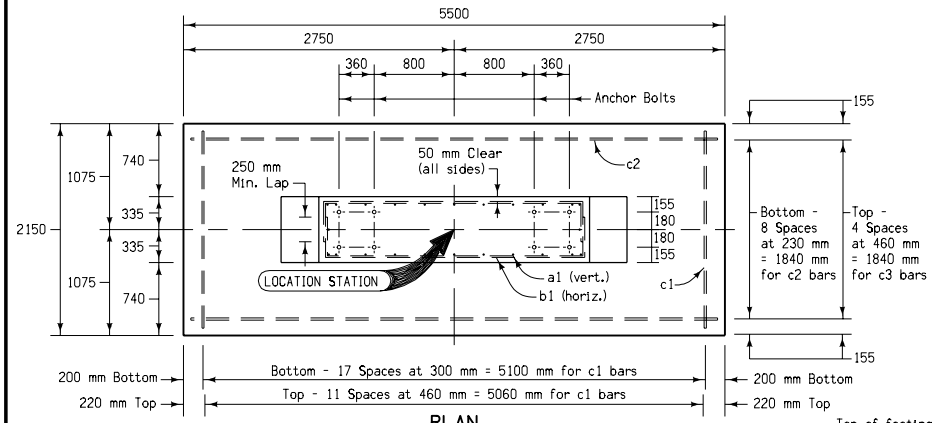
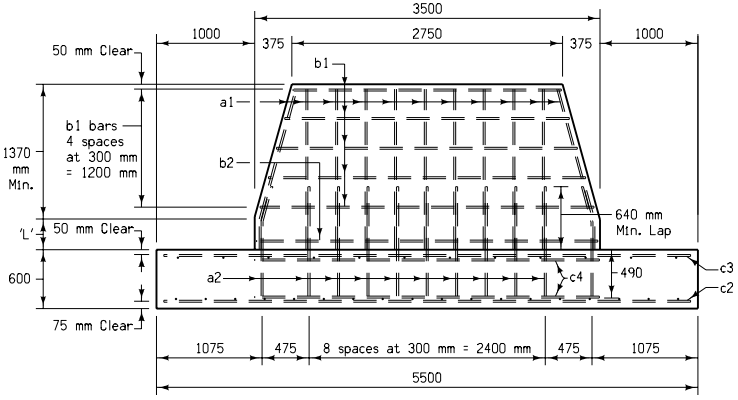
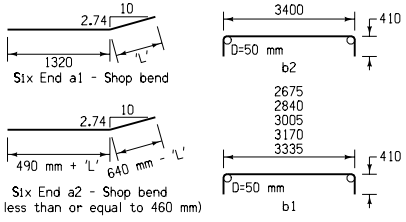


PLAN



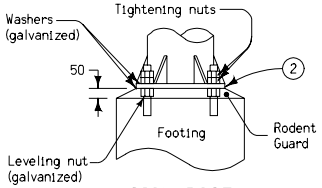
SIDE ELEVATION

(Anchor bolt assemblies and wire ducts not shown.)

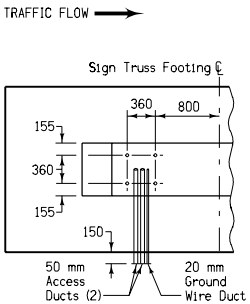


All bar dimensions shown are out to out.

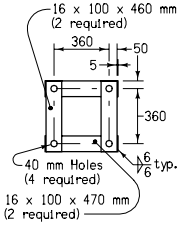
SHOP BEND DETAILS



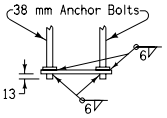
SIGN POST
CONNECTION DETAIL



WIRE DUCT
PLACEMENT DETAILS (1)

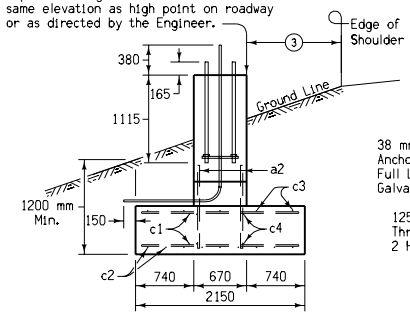


BASE DETAIL

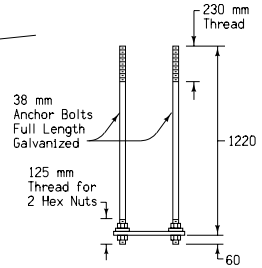


ALTERNATE DETAIL AT
BOTTOM OF ANCHOR
BOLTS ASSEMBLY

Top of footing elevation is to be set at same elevation as high point on roadway or as directed by the Engineer.



END ELEVATION



ANCHOR BOLT ASSEMBLY

HARDWARE CLASSIFICATION				
Bolt Size	Bolt Grade	Nuts	Washers	Galvanizing
38 mm Full Length Galvanized Zinc Coated	ASTM A-307 Grade C Zinc Coated or ASTM F-1554 Grade 105 Zinc Coated	ASTM A-563M Zinc Coated	ASTM F-436M Zinc Coated	ASTM A-153M Class C

REINFORCING BAR LIST FOR ONE FOOTING									
MARK	SIZE	SHAPE	'L' = 0				Each Additional 300 mm of 'L'		
			NO.	LENGTH	MASS	SPACING	NO.	LENGTH	MASS
a1	20		24	1320	72	See Detail	24	300 (A)	17
a2	20		24	1175	66	See Detail			
b1	10		10	Varies	32	300			
b2	10						2 (B)	4420	7
c1	15		30	2000	94	See Detail			
c2	20		9	5350	113	230			
c3	15		5	5350	42	460			
c4	10		4	3500	11	See Detail			
Total 430 kg							Total		24 kg

(A) Additional length to bar a1 for 'L' = 0

(B) Two in each additional 300 mm of 'L'.

GENERAL NOTES:

Details shown hereon are typical only and are not intended to depict any specific installations. Refer to detail project plans for sizes of footings and locations. Structural concrete, Class C, shall be used for the footing.

Excavation for footing shall be to neat lines and concrete shall be placed against the undisturbed material. All excavation for the footing shall be disposed of in the area adjacent to the footing and shaped to normal ground contour, unless otherwise directed by the Engineer. Maximum design bearing capacity is 14.6 megagrams per square meter.

The requirements per footing are two anchor bolt assemblies including shims, nuts (5 per bolt) and washers. Refer to current Standard and Supplemental Specifications, Sections 4100 and 4187, for materials and galvanizing requirements.

A rodent guard shall be placed between the concrete footing and the base plate, see Materials I.M. 443.01.

Price bid for contract items shall include all labor and materials necessary to construct overhead sign footing as detailed hereon. The cost of furnishing and installing anchor bolt assemblies, conduits and rodent guard are to be included in the unit price bid for structural concrete. Contract items for overhead sign footing construction are:

1. Reinforcing Steel, kilograms
2. Structural Concrete (Miscellaneous), cubic meters
3. Excavation, cubic meters of class specified

(1) Place 20 mm ground wire duct and two 50 mm access ducts within the anchor bolt circle closest to the direction of the approaching traffic. Cap ends to exclude moisture unless sign lighting is part of the contract. Extend conduit ends 150 mm past edge of footing on side away from roadway. Location shall be on detail project plans. All ducts shall meet requirements for plastic conduit. Footings installed in the median of a divided roadway do not require access ducts.

(2) For aluminum sign structure, place one (1) galvanized shim 3 x 480 x 480 mm at each bearing. Furnish two (2) per footing.

(3) See Footing Tabulation.

CONCRETE PLACEMENT QUANTITIES FOR ONE FOOTING		
ITEM	'L' = 0	Each Additional 300 mm of 'L'
Wall	2.87	1.41
Footing	7.10	
Total	9.97 m³	1.41 m³

All dimensions given in millimeters unless noted.

METRIC VERSION

Iowa Department of Transportation
Highway Division

STANDARD ROAD PLAN RD-22C

REVISION: Add HARDWARE table; changes in General Notes.

REVISION NO. 7

REVISION DATE 10-02-01

William J. Stein
APPROVED BY DESIGN METHODS ENGINEER

OVERHEAD SIGN FOOTING DETAILS (TYPE 'A' FOOTING)